

QUICK START GUIDE

SKC chek-mate Flowmeter

Switching on and off, the battery status, setting and verifying a pump's flow rate, and CalChek automatic flow verification with the SKC chek-mate flowmeters, 375 series.

AMTC-QG-0018

Read this first

The full safety information is in the Safety chapter of the operating manual (AMTC-MN-0020); read that chapter and the cautions below before you use the flowmeter. Not following them can damage the flowmeter or give a wrong flow reading. You can download the operating manual from the product page at analyt-mtc.com.

The chek-mate is a flowmeter for setting and verifying the flow rate of air sample pumps. This guide covers the basic operation of all chek-mate models: switching on and off, the battery status, setting and verifying a pump's flow rate, and the automatic CalChek flow verification and calibration. It does not replace the operating manual.

Check Supplied items (p. 5) first, then work through First use (p. 6) in order.

Keep this guide for the lifetime of the product. The current revision is on the product page at analyt-mtc.com.

How this guide marks information

NOTICE

Practices not related to personal injury — damage to the product, the process or the sample.

Note
Information that helps understanding; never a hazard.

Before you measure

NOTICE

A chek-mate that has not reached the temperature of the place where you use it gives a wrong flow reading. Let the chek-mate equilibrate for at least 10 minutes in that place before you switch it on and measure.

Note
For pumps with a flow rate of 5 L/min or more, the high flow model needs the pulsation dampener 375-150 in line to give its highest accuracy.

Document information

Title	SKC chek-mate Flowmeter — Quick start guide
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Applies to	SKC chek-mate flowmeters, 375 series (high flow 375-50300, medium flow 375-0550, low flow 375-00205)
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Related documents	SKC chek-mate Flowmeter — Operating manual (AMTC-MN-0020); SKC chek-mate Flowmeters — Technical data sheet (AMTC-SS-0033)

Revision history

Rev.	Date	Change
1	October 2026	First issue.

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CHAPTER 1

Supplied items

The models

Each chek-mate comes with a battery. This guide covers three models:

Model	CalChek interface socket	Order code
High flow chek-mate flowmeter with CalChek	Yes	375-50300 / 375-50300N / 375-50300S
Medium flow chek-mate flowmeter with CalChek	Yes	375-0550 / 375-0550S
Low flow chek-mate flowmeter	No	375-00205 / 375-00205S

Know the flowmeter

The parts you will use (Figure 1-1 (p. 5)):

- the **inlet**, top left, and the **outlet**, top right;
- the **LCD screen**, with the **low battery indicator** in its upper left corner;
- the **on/off button** on the front;
- the **CalChek interface socket** on the right side, on the high flow and medium flow models only;
- the **battery compartment cover** on the back.

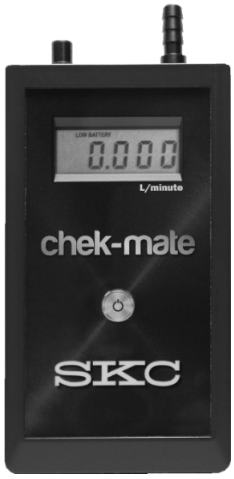


Figure 1-1. chek-mate, front view.

CHAPTER 2

First use

Switch on and off

NOTICE

A chek-mate that has not reached the temperature of the place where you use it gives a wrong flow reading. Let the chek-mate equilibrate for at least 10 minutes in that place before you switch it on and measure.

1. Let the chek-mate equilibrate for at least 10 minutes in the place where you use it.
2. Press the on/off button on the front of the flowmeter.
3. Watch the LCD screen. It shows **`On`**, then the upper limit of the model's range (**`30 L`**, **`5.0 L`** or **`0.5 L`**), then the current flow rate. With no airflow, or below the minimum display value, it shows **`0.000`**.
4. To switch off, press the on/off button.

The chek-mate stays on as long as it reads a flow rate above the minimum display value. Below that value, or with no airflow, it switches itself off after 15 minutes to save the battery. The minimum display values are in Specifications (p. 9).

Battery status

Screen	Meaning, and what to do
`LOW BATTERY` in the upper left corner	The battery voltage is below 8 V and the battery nears the end of its life. Replace the battery.
`LOW BATTERY` flashing	The battery voltage is below 7 V. The chek-mate switches itself off. Replace the battery.
`bAtt LO`, shown 10 times	The chek-mate was switched on again with the battery below 7 V; it then switches itself off. Replace the battery.

Set and verify a pump's flow rate

Before you start, set the pump's flow rate as its operating instructions describe. The flowmeter outlet connects to the inlet of the verification train: the representative sampling medium and the pump (Figure 2-1 (p. 7), Figure 2-2 (p. 7)).

1. Switch the flowmeter on.
2. Prepare the verification train:
   - **medium flow and low flow models:** flexible tubing of 1/4 in ID, and a calibration adapter if the sampler needs one;
   - **high flow model:** flexible tubing of 3/8 in ID, with the pulsation dampener 375-150 in line between the flowmeter outlet and the inlet of the representative sampling medium, and a calibration adapter if the sampler needs one.
3. Connect the flowmeter outlet to the inlet of the verification train.
4. Start the sample pump.

5. Watch the flowmeter LCD until it shows a steady value. The reading may vary around the steady value by up to ±0.05 L/min on the high flow model, ±0.005 L/min on the medium flow model and ±0.5 mL/min on the low flow model.
6. If the flow fluctuates, switch to the average display (see Average display (p. 7)).
7. Run the pump for at least 5 minutes to let it stabilise.
8. Adjust the sample pump to the flow rate you need.
9. Disconnect the tubing from the flowmeter outlet without twisting the tubing.
10. Switch the flowmeter off.



Figure 2-1. Medium and low flow verification train (medium flow pump and flowmeter shown). Left to right: pump inlet, representative sampling medium, flowmeter outlet.

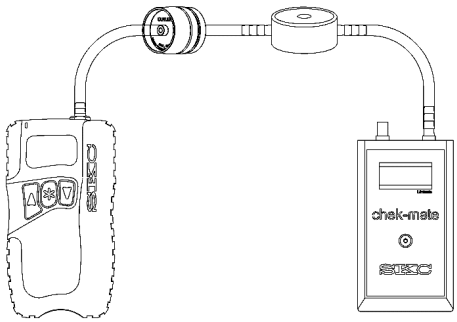


Figure 2-2. High flow verification train. Left to right: pump inlet, representative sampling medium, pulsation dampener, flowmeter outlet.

Average display

The average display records the flow rate every 3.5 seconds for 10 readings, then shows **AVE** briefly and the average of those 10 readings for 7.5 seconds. A new cycle then starts; one cycle takes about 45 seconds.

- **Start:** press and hold the on/off button for several seconds. The screen shows **AVE**, then **On**.
- **Reset:** press and hold the on/off button for several seconds at any time during a cycle. The next 10 readings form the new average.
- **Cancel:** press the on/off button briefly to switch the flowmeter off, then switch it on again.

> **Note**
> Older models have no average display. On those, average the highest and the lowest reading, or record ten readings and average them.

CalChek automatic flow verification and calibration

With the CalChek-ready pumps AirChek TOUCH and Leland Legacy, the high flow and medium flow chek-mate models verify or calibrate the pump flow automatically. The operating manual gives the full CalChek procedure.

1. Prepare the pump as its operating instructions describe.
2. Switch the flowmeter on.
3. Connect the CalChek communication cable 375-200 to the CalChek interface socket on the flowmeter and to the CalChek port on the AirChek TOUCH charging cradle, or to the data port on the Leland Legacy pump.
4. Prepare the single or the full CalChek verification train, with flexible tubing of 1/4 in ID for the AirChek TOUCH or 3/8 in ID for the Leland Legacy, and a calibration adapter if needed:
   - **single flow verification:** the sampling medium in line and, with the high flow chek-mate, also the pulsation dampener 375-150;
   - **full calibration:** no sampling medium in line, and the pulsation dampener 375-100 (medium flow chek-mate) or 375-150 (high flow chek-mate) between the flowmeter and the pump.
5. Start the CalChek function from the pump, as its operating instructions describe.

As soon as the flowmeter detects airflow, it sends its flow reading over the CalChek interface every 3.5 seconds. The pump reads in the values it needs and shows on its screen when CalChek is complete.

CHAPTER 3

Specifications

Display values per model

Model	Upper limit shown at start-up	Minimum display value*	Variation around a steady reading
High flow	30 L	3 L/min	up to ±0.05 L/min
Medium flow	5.0 L	0.3 L/min	up to ±0.005 L/min
Low flow	0.5 L	5 mL/min	up to ±0.5 mL/min

* At 68 °F (20 °C) and 1 atm (1013.25 mbar). The minimum display value depends on the atmospheric conditions: it is higher at higher altitudes and temperatures. Other specifications: see the operating manual.

CHAPTER 4

Where to find more

This guide covers the basic operation of the flowmeter. The documents below go further; you can download them from the product page at analyt-mtc.com, or ask Analyt-MTC.

Related documents

Document	Number	What it covers
SKC chek-mate Flowmeter — Operating manual	AMTC-MN-0020	The full safety information, the complete operation, the full CalChek procedure, maintenance and specifications.
SKC chek-mate Flowmeters — Technical data sheet	AMTC-SS-0033	Specifications, models, flow ranges, CalChek capability and order codes.
SKC chek-mate Flowmeter — Technical note	AMTC-TN-0001	How air sampling flowmeters are classified, and where the chek-mate stands.

Contact and support

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Before you call

Have the following at hand so Analyt-MTC can help you quickly:

- the model and serial number of the flowmeter;
- the pump you verify with it;
- what you were doing, and any message on the screen.

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